

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P18777PCT	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2005/010774	International filing date (day/month/year) 31/03/2005	(Earliest) Priority Date (day/month/year) 31/03/2004
Applicant  INTEL CORPORATION		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

NO DOCKETING REQUIRED  
N/A

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 4d

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2005/010774

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G02F1/1337

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 007, no. 042 (P-177), 19 February 1983 (1983-02-19) & JP 57 192926 A (SHINSHIYUU SEIKI KK; others: 01), 27 November 1982 (1982-11-27) abstract	1-6, 9, 12-17, 20
X	----- PATENT ABSTRACTS OF JAPAN vol. 017, no. 255 (P-1539), 20 May 1993 (1993-05-20) & JP 04 372931 A (TOSHIBA CORP), 25 December 1992 (1992-12-25) abstract ----- -/--	1, 3-6, 9-12, 14-17, 20-29

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \* & \* document member of the same patent family

Date of the actual completion of the international search

5 July 2005

Date of mailing of the international search report

21/07/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
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Authorized officer

Gill, R

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2005/010774

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LEE E S ET AL: "CONTROL OF THE LC ALIGNMENT USING A STAMPED MORPHOLOGY METHOD AND ITS APPLICATION TO LCDS" 16 May 1993 (1993-05-16), SID INTERNATIONAL SYMPOSIUM - DIGEST OF TECHNICAL PAPERS. SEATTLE, MAY 16 - 21, 1993, PLAYA DEL REY, SID, US, PAGE(S) 957-960 , XP000470785 ISSN: 0097-966X figure 1 * page 957, left column, last paragraph * -----	1,3-8, 12,14-19
P,X	US 2004/150141 A1 (CHAO CHIH-YU ET AL) 5 August 2004 (2004-08-05) the whole document -----	1-20

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2005/010774

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 57192926	A	27-11-1982	NONE	
JP 04372931	A	25-12-1992	NONE	
US 2004150141	A1	05-08-2004	TW 556031 B JP 2004226974 A	01-10-2003 12-08-2004

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

To:

see form PCT/ISA/220

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/US2005/010774

International filing date (day/month/year)  
31.03.2005

Priority date (day/month/year)  
31.03.2004

International Patent Classification (IPC) or both national classification and IPC  
G02F1/1337

Applicant  
INTEL CORPORATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☐ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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NL-2280 HV Rijswijk - Pays Bas  
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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2005/010774

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**Re Item V.**

- 1 Reference is made to the following documents:

D1 : PATENT ABSTRACTS OF JAPAN vol. 007, no. 042 (P-177), 19 February 1983 (1983-02-19) &; JP 57 192926 A (SHINSHIYUU SEIKI KK; others: 01), 27 November 1982 (1982-11-27)

D2 : PATENT ABSTRACTS OF JAPAN vol. 017, no. 255 (P-1539), 20 May 1993 (1993-05-20) &; JP 04 372931 A (TOSHIBA CORP), 25 December 1992 (1992-12-25)

D3 : LEE E S ET AL: "CONTROL OF THE LC ALIGNMENT USING A STAMPED MORPHOLOGY METHOD AND ITS APPLICATION TO LCDS" 16 May 1993 (1993-05-16), SID INTERNATIONAL SYMPOSIUM - DIGEST OF TECHNICAL PAPERS. SEATTLE, MAY 16 - 21, 1993, PLAYA DEL REY, SID, US, PAGE(S) 957-960 , XP000470785 ISSN: 0097-966X

- 2) The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 and 12 is not new in the sense of Article 33(2) PCT. Document D1 discloses (see abstract and figure):

a process for imprinting a plurality of microgrooves in a polymer film by pressing a tool against the polymer film, the tool having a pattern including a plurality of microgrooves formed in a surface thereof.

Claim 1 is also not novel in view of D2 (see abstract and figure) and in view of D3 (see figure 1).

- 3) Claims 2,13 lack novelty because D1 discloses PVOH and PI alignment layer, see abstract.
- Claims 3,14 lack novelty, because D3 discloses a glass substrate, see figure 1.
- Claim 4 lacks novelty, because D3 discloses spin coating the polymer film, see chapter 2.
- Claims 5,15 lack novelty, see the profile in D1-D3.
- Claims 6,16 lack novelty, see the square profile of D1.

Claims 7,8,17-19 lack novelty, see the prebaking step of the polymer film in D3 (chapter 2).

Claims 9,20 lack novelty, see D1.

Claims 10,21 lack novelty in view of D2, see the oscillating movement of tool 3.

- 4) The additional feature of claim 11 is trivial. Claims 22-29 are trivial from either D3 alone, or from the combination of D1 or D2 with D3 (see also the motivation above under point 3).